

DUCK CREEK WATERSHED (LW25)

The Duck Creek Watershed is located in Adams and Columbia Counties in the driftless region of Wisconsin. The streams in the watershed are tributary to the Wisconsin River. Many of the creeks in the watershed consist of sand and silt substrates with low gradients and small to moderately sized spring ponds.

Population in the watershed for the year 2000 was estimated to be close to 38,743. Wisconsin Dells is the only municipality in the watershed and it has experienced a one percent growth from 2,393 people to 2,418 from 1990 to 2000 respectively.

The primary land cover in the basin is broad-leaf deciduous forest. The percentage of land in agricultural production in the watershed is lower than in many other watersheds yet is the second largest land cover in the watershed. The greatest density of coniferous trees can be found in this watershed. The percentage of wetland areas throughout Duck Creek Watershed is average compared to the rest of the watershed in the Lower Wisconsin Basin.

Table 1: Land Cover in the Watershed

<i>Land Cover</i>	<i>Percent of Watershed</i>
Forest (Total)	51.3%
<i>Broad-Leaf Deciduous</i>	40.9%
<i>Coniferous</i>	10.4%
Agriculture	26.0%
Grassland	12.6%
Wetland (Total)	7.6%
<i>Forested</i>	3.9%
<i>Emergent/Wet Meadow</i>	2.0%
<i>Lowland Shrub</i>	1.7%
Open Water	1.9%
Development	0.5%

Water quality in the watershed has been negatively affected by nonpoint sources of pollution. Some of these sources of pollution are the result of the over application of fertilizers, herbicides, pesticides, fungicides, insecticides and atrazine. Because the groundwater table is close to the surface and because the soil is so permeable, these chemicals and fertilizers pose a threat to groundwater resources as well. The shallow depth does not allow time for the soil to filter out the unused chemicals that are applied to the soil surface. As a result, portions of the watershed are atrazine prohibition areas. These areas indicate that elevated levels of atrazine, an herbicide used on corn, has been found in some tested private water wells. These

Watershed At A Glance

Drainage Area (m²): 182.0

Total Stream Miles: 75.5

Trout Stream Miles: 28.1

Sport Fishery Miles: 0.0

Lakes: Easton Lake, Fawn Lake, Silver Lake

Exceptional/Outstanding Resource Waters: Campbell Creek, Castle Rock Ditch, Risk Creek and White Creek

Municipalities: Wisconsin Dells

Major Public Land: White Creek State Fisheries Area, Large tracts of industrial forest land, Adams County Forested Land and several tracts of State land ranging in various sizes.

Concerns and Issues:

- ◆ Nonpoint source pollution
- ◆ Atrazine
- ◆ Groundwater contamination
- ◆ Parcelization of forest land

Initiatives and Projects:

- ◆ Wild Trout Reintroduction

chemicals and fertilizers can be a problem in surface waters in the watershed. See Appendix B. With the low flows and small volume of water in some of the streams, there is little water to help dilute the nonpoint sources of pollution that enters the surface waters. Overall the watershed is ranked as a low priority with respect to nonpoint source pollution. It is important to note, however, that the groundwater is ranked high with respect to nonpoint source pollution reduction.

Surface water quality in the watershed is low as a result of the nonpoint sources of pollution and the lack of water in several of the streams. Castle Rock Flowage has several limitations on the type and size of fish that is safe to eat.

Wisconsin Dells-Lake Delton discharge to the Wisconsin River. Industrial discharges in the watershed include the Dells Boat Company, the Dells Boat Company in Witches Gulch and Chula Vista Resort. Chula Vista Resort's wastewater treatment facility was constructed in 1999 and discharges to the Wisconsin River. Dells Boat Company in Witches Gulch in the Town of Dell Prairie discharges to the groundwater. The facility treats wastewater from restrooms at the boat landing. The treatment system is made up of a septic tank, lift station and a sand filter. Sludge or septage that is generated in the septic tank is periodically removed from the tank, tested and disposed of either on approved agricultural lands or sent to another treatment plant for further treatment and disposal.

Duck Creek Watershed has a variety of good quality habitats and rare plant communities that are listed on the state's Natural Heritage Inventory (NHI), kept by the Bureau of Endangered Resources. These communities include:

- Central sands pine-oak forest
- Dry cliff
- Dry prairie
- Hemlock relict
- Moist cliff
- Northern dry forest
- Northern dry-mesic forest
- Pine barrens
- Pine relict
- Southern dry forest
- Southern dry-mesic forest
- Southern mesic forest
- Alder thicket
- Calcareous fen
- Coastal plain marsh
- Floodplain forest
- Lake--shallow, soft, seepage
- Northern sedge meadow
- Northern wet forest
- Open bog
- Shrub-carr
- Southern sedge meadow
- Springs and spring runs, hard
- Stream--fast, hard, cold

In addition to these special communities, the watershed is also home to a variety of rare plant and animal species including; 2 species of beetles, 4 species of birds, 2 species of butterflies, 13 species of dragonflies, 6 species of fish, 1 species of frog, 1 species of lizard, 7 species of mussels, 32 plant species, and 1 species of snake. These plants and animals are also listed on the state's Natural Heritage Inventory.

The watershed contains a wide variety of public lands that can be used for a variety of recreational activities from hunting and hiking, to canoeing and ATV trails. A major concern with the industrial forestlands that are currently open to public activities is the parcelization of

these large tracts of land into smaller tracts held by private non-industrial landowners. If these large tracts of land are broken up into private ownership the amount of public hunting land would drastically decrease.

The property owned by the Department of Natural Resources in this watershed is mainly along higher quality streams and the Wisconsin River. One of these areas is the White Creek State Fishery Area. Most of the property was obtained to help improve the overall habitat quality in and along the stream banks while increasing the amount of public access to high quality trout streams. The White Creek State Fisheries Area is located in southern Adams County between White and Duck Creeks.

STREAMS AND RIVERS IN THE WATERSHED

Campbell Creek

Campbell Creek is a tributary to White Creek. It is a Class I trout stream upstream from Easton Lake and is also considered an exceptional resource water (ERW). A small impoundment on the stream creates Easton Lake. There is siltation in the vicinity of the dam. Overall, the creek has been ranked as a high priority for nonpoint source pollution reduction. The dam is in need of repairs. As a result of the impoundment, the water in the creek is warmed by the reduced flow. This warming and the overall reduction in flow has a negative impact on fish habitat.

Castle Rock Ditch

Castle Rock Ditch drains to Castle Rock Lake. The ditch has been classified as a Class II trout stream. The ditch has been extensively straightened and lacks good fish habitat. There is limited information available for this stream.

Corning Creek

Corning Creek drains to the Wisconsin River. The lower 3.5 miles of the creek are classified as a Class I trout stream. The entire stream is designated an Exceptional Resource Water (ERW). A rare aquatic species has historically been found in the creek. There is limited information available for this stream.

Duck Creek

Duck Creek is a tributary to the Wisconsin River. The creek has historically had a rare aquatic species. The stream has been hydrologically modified through ditching and straightening. There is limited information available on this creek.

Fairbanks Creek

Fairbanks Creek is a tributary to White Creek. The creek has been classified as a Class I trout stream and Exceptional Resource Water (ERW). There is limited information available for this creek.

Gulch Creek

Fairbanks Creek is a tributary to the Wisconsin River. The creek has been classified as a Class I trout stream and Exceptional Resource Water (ERW). There is limited information available for this creek.

Plainville Creek

Plainville Creek is a tributary to the Wisconsin River. The creek has been classified as a Class I trout stream and an Exceptional Resource Water (ERW) from Highway 13 upstream. The downstream portion of the creek is thought to support a Class I trout fishery. There is limited information available for this creek.

Risk Creek

Risk Creek is a Class II trout stream for the bottom 2.5 miles although it is thought that it has the potential to support a Class I fishery. Dam abandonment and removal at Brookside has improved fisheries and habitat of the stream. There is limited information available for this creek.

Shadduck Creek

There is limited information available for this creek.

Trout Creek

There is limited information available for this creek.

White Creek

White Creek is a tributary to the Wisconsin River. The creek receives water from Fairbanks and Campbell Creek. The creek has been classified as a Class II trout stream. There is limited information available for this stream.

Wisconsin River

The portion of the Wisconsin River that follows the county line between Juneau and Adams counties flows through this watershed. For more information on the Wisconsin River, see page 90.

LAKES IN THE WATERSHED**Easton Lake**

There is limited information on this lake.

Fawn Lake

There is limited information on this lake.

RECOMMENDATIONS (LW25)

- The **Easton Lake** impoundment on Campbell Creek should be examined to determine if it needs repairs or removal. Fish passage around the dam should be considered if the dam is to be repaired. Money for such as effort could be received through grant programs such as the River Planning Grant.
- **Campbell Creek** should be considered for a nonpoint source pollution abatement project such as a TRM grant.
- **Corning and Duck Creeks** should be surveyed to determine if rare aquatic elements are still present.
- **Risk Creek** should be evaluated to determine if it is capable of supporting a Class I fishery. If so, habitat work should be conducted on the creek to improve the fishery.
- Water quality, fisheries and stream habitat monitoring should be conducted on the streams in this watershed as a part of the baseline assessment program.
- Chula Vista Resort should take steps to ensure sampling equipment is accurate. Sampling equipment needs to be operated properly in order to comply with the sample types required in the permit.

WATERSHED MAP

Streams in the Duck Creek Watershed (LW25)

Adams County

Area: 182 sq miles

Stream Name	WBIC	Length (miles)	Existing Use	Potential Use	Supporting Potential Use	Codified Use and Trout Stream Classification	Proposed Modified Use	303(d) Status	Rare Aquatic Species	Use Impairment		NPS Rank	Monitored/ Evaluated/ Unassessed	Data Level	Trend	Ref. *	
										Source	Impact						
Campbell Cr.	1343400	0-3.7	U	U	U	DEF	same	N	N	HM	TEMP	H	E	U	U	7, 14	
		3.7-9	COLD I	same	Full	COLD I (ERW)	same	N									
Castle Rock Ditch	1345400	3.3	COLD II	same	Part	COLD II	same	N	N	HM	HAB	NR	E	U	U	7, 14	
		0-3.5	COLD I	same	Part	COLD I (ERW)	same	N	Y								
Coming Creek	1301400	3.5-5	U	U	U	ERW	same	N									
		17	U	LFF	U	DEF	same	N	Y	HM	FLOW	L		U	U	7, 14	
Fairbanks Creek	1343800	4.8	COLD I	same	Full	COLD I (ERW)	same	N	N	BDAM		M	E	U	U	7, 14	
Gulch Creek (Witches Gulch)	1299700	0-3	COLD I	same	Full	COLD I (ERW)	same	N	N			NR	E	U	U	7, 14	
		0-0.5	COLD I	same	Part	DEF	same	N	N								
Plainville Creek	1300200	0.5-2.7	COLD I	same	Part	COLD I (ERW)	same	N									
		2.7-5	U	U	U	DEF	same	N									
Risk Creek	1343900	0-2.5	COLD II	COLD I	Part	COLD II	same	N	N			L	E	U	U	7, 14	
		2.5-5.0	U	U	U	DEF	same	N	N								
Shaddock Creek	1300100	4	U	U	U	DEF	same	N	N			NR		U	U	14	
Trout Creek	1301100	3	U	U	U	DEF	same	N	N			NR		U	U	14	
White Creek	1342800	6	COLD II	same	Part	COLD II	same	N	N	HM	TEMP, HAB	M	E	U	U	7, 14	
Unnamed streams		13				DEF											

Total Stream Miles 78.1
 COLD I 19.3
 COLD II 11.8
 U 47

***The numbers in this column refer to the References found in the corresponding Watershed Narrative. See Appendix J: "How to Read the Stream Tables," in Chapter 7 of the State of the Lower Wisconsin River Basin Report.**

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